

month. All local calls are free.¹⁴⁰ The CRTC rejected Bell Canada's application in 1993 to raise rates for basic local service.¹⁴¹

BCE Inc., Canada's large telecommunications holding company, has equity interests in many of the nation's largest telecommunications operators and equipment manufacturers, including Bell Canada and Northern Telecom, the telecommunications equipment manufacturer.¹⁴²

Bell Canada is Canada's largest telecommunications operator.¹⁴³ Bell Canada has a monopoly on the provision of local service for Ontario, Quebec, and parts of northern Canada—a service area with more than seven million customers.¹⁴⁴ BCE owns 100 percent of Bell Canada.¹⁴⁵ In response to the competition that exists in the long-distance market and in preparation for the imminent competition in the local services market, Bell Canada plans to invest C\$1.7 billion over the next three years to upgrade its operations.¹⁴⁶ Upon receiving regulatory approval, Bell Canada will also normalize its rates for local and long-distance service.¹⁴⁷

Maritime Telephone & Telegraph (MT&T) owns and operates the principal telephone system in Nova Scotia, providing telecommunication services to residential and business customers. MT&T is the third largest publicly owned telephone company in Canada. Through its 52 percent owned subsidiary, The Island Telephone Company Limited, the company provides telecommunications services to Prince Edward Island.¹⁴⁸ BCE owns 36 percent of MT&T.¹⁴⁹

Bruncor Inc. is a telecommunications holding company that owns 100 percent of the New Brunswick Telephone Company Limited

140. *Id.*

141. *Id.*

142. BCE INC., 1993 SEC FORM 20-F, at 3 (1994).

143. *Id.*

144. BCE INC., 1994 ANNUAL REPORT 8 (1995).

145. BCE INC., 1993 SEC FORM 20-F, at 3 (1994).

146. Bell Canada Inc., Bell Canada Is Taking Tough Medicine to compete and to Meet Customer Needs (press release Mar. 27, 1995).

147. *Id.*

148. MICROMEDIA LTD., CANCORP PLUS DATABASE: MARITIME TELEPHONE & TELEGRAPH CO. LTD. 1 (Apr. 28, 1995).

149. BCE INC., 1994 ANNUAL REPORT 50 (1995).

(NBTel).¹⁵⁰ NBTel is the primary supplier of telecommunications services in New Brunswick.¹⁵¹ BCE owns 42.6 percent.¹⁵²

GTE, through its ownership of a Canadian holding company, has voting control of BC Tel and Québec Téléphone.¹⁵³ GTE owns 100 percent of the Anglo-Canadian Telephone Company.¹⁵⁴ Anglo-Canadian Telephone, in turn, owns 50.47 of BC Telecom Inc.¹⁵⁵ BC Telecom, a holding company, owns 100 percent of BC Tel, the telecommunications operator.¹⁵⁶ Anglo-Canadian Telephone also owns 50.63 percent of Québec-Téléphone.¹⁵⁷ As of December 31, 1994, BC Tel served approximately 2.3 million access lines in British Columbia, and Québec-Téléphone served approximately 300,000 access lines in Québec.¹⁵⁸

NewTel Enterprises Limited owns 100 percent of Newfoundland Telephone Company Limited, which provides telecommunications services throughout Newfoundland and Labrador.¹⁵⁹

Northwestel provides telephone, telegraph, and telecommunications services in the Yukon Territory and the Northwest Territories.¹⁶⁰

Télébec Limitée provides basic telecommunications to approximately 170,000 business and residential customers in part of Québec.¹⁶¹

Cable Television and Telephony. Cable television is well developed in Canada. More than 98 percent of Canadian homes have a color television.¹⁶² Ninety-five percent of Canadian homes have access to cable television service, and 81 percent of these homes (or seven

150. BRUNCOR INC., 1994 ANNUAL REPORT 18 (1995).

151. *Id.*

152. BCE INC., 1994 ANNUAL REPORT 50 (1995).

153. GTE CORP., 1994 SEC FORM 10-K, at 3 (1995).

154. *Id.*

155. *Id.* at Exhibit 21.

156. *Id.*

157. *Id.*

158. *Id.* at 3.

159. NEWTEL ENTERPRISES LTD., 1994 ANNUAL REPORT 17 (1995).

160. MICROMEDIA LTD., CANCORP PLUS DATABASE: NORTHWESTEL, INC. 1 (Nov. 9, 1994).

161. TÉLÉBEC LIMITÉE, 1994 ANNUAL REPORT 17 (1995).

162. BCE INC., 1994 ANNUAL REPORT 20 (1995).

million customers) subscribe—the highest cable television penetration in the world.¹⁶³

Competition in Canadian cable television services is minimal. Each cable operator in effect has a monopoly within its franchise territory.¹⁶⁴ Alternative delivery of video services such as MMDS, SMATV, and direct-to-home (DTH) satellite systems (called direct broadcast satellite or DBS in the U.S.) have achieved low penetration and address limited markets.¹⁶⁵ Cable operators do face competition in the market for pay-per-view movies from video rental stores, though many are owned by cable operators.¹⁶⁶ More competition may emerge in the near future from DTH systems operators and from wireless cable operators, but for now the cable operators dominate the distribution of Canadian video services.

Ownership of cable operators in Canada is highly concentrated. (As of late 1994, three of the top six Canadian cable operators sought CRTC approval of a number of mergers and franchise exchanges. The following data are based on the assumption that the CRTC approved all such transactions.) The ten largest Canadian multiple systems operators (MSOs) together control 85 percent of the Canadian cable television market.¹⁶⁷ The three largest MSOs—Rogers Cable TV (31.4 percent), Shaw Cablesystems (20.6 percent), and Vidéotron (14.5 percent)—collectively control more than two-thirds of the national market.¹⁶⁸ By comparison, the top three MSOs in the U.S.—TCI (26.01 percent), Time Warner (15.21 percent), and Comcast (5.57 percent)—control just 46.79 percent of the American cable television market.¹⁶⁹

CRTC Decision 94-19 permits cable television operators to enter the local switched voice market.¹⁷⁰ Many of the large cable operators, including Rogers Cable TV, Shaw Cablesystems, and

163. Stentor Submission, *supra* note ___, at 73.

164. *Id.* at 74.

165. *Id.* at 73.

166. *Id.*

167. *Id.* at 75.

168. *Id.*

169. *Id.*

170. TELECOM DECISION CRTC 94-19, at 50 (Sept. 16, 1994).

Vidétron, have all expressed interest in that market and have already begun to provide telecommunications services on a limited basis.¹⁷¹

BCE has developed expertise in the provision of cable television service through its significant cable interests in the U.K. and the U.S. BCE is trying to break into its own domestic cable television market.¹⁷²

In April 1994, the Stentor alliance unveiled a plan to develop a nationwide broadband network through a project called the "Beacon Initiative."¹⁷³ Through the Beacon Initiative, the Stentor companies will deliver multimedia services to offices, homes, and schools over the public telephone network.¹⁷⁴

In September 1994, the CRTC also ruled in its Decision 94-19 that "subject to the licensing of service providers where required, broadcasting or content-based services may be distributed on a common carrier basis over telephone company facilities, whether those facilities are narrowband or broadband in nature."¹⁷⁵

Wireless. The Canadian cellular market is well developed and is expected to grow significantly by 2000. In 1994, cellular services generated \$1.3 billion in revenue; by 2000, cellular revenues are expected to exceed \$3.5 billion.¹⁷⁶

The Canadian government has licensed two cellular operators in each market. The cellular subsidiaries of the regional telephone companies each received a license for their respective regions, and together they provide a coordinated and unified nationwide cellular service under the brand name "Mobility Canada". The cellular alliance operates much like the companies' joint long-distance service, Stentor. At the end of 1994, Mobility Canada companies accounted for 58 percent of Canada's cellular market.¹⁷⁷ The second license in each market was given to Rogers Cantel Mobile Inc.¹⁷⁸

171. Stentor Submission, *supra* note ___, at 95.

172. Simon, *Shake-out on the line*, *supra* note ___, at 30.

173. BRUNCOR INC., 1994 ANNUAL REPORT 28 (1995).

174. BCE INC., 1994 ANNUAL REPORT 13 (1995).

175. TELECOM DECISION CRTC 94-19, at 50 (Sept. 16, 1994).

176. NORTH AMERICAN TELECOMMUNICATIONS ASSOCIATION, *supra* note ___, at 241.

177. BCE MOBILE INC., 1994 ANNUAL REPORT 5 (1995).

178. ITU WORLD TELECOMMUNICATION DEVELOPMENT, *supra* note ___, at 63.

Bell Mobility Cellular (BMC) is the cellular provider affiliated with Bell Canada. BMC operates both an analog and digital cellular network in Ontario and Quebec.¹⁷⁹ The coverage areas served by BMC had an estimated population of 15.7 million as of 1993 and included Canada's two largest metropolitan areas, Toronto and Montreal.¹⁸⁰ BCE Mobile owns all of BMC. BCE owns 65.4 percent of BCE Mobile.¹⁸¹ BMC operates its own long-distance network and generates revenues from long-distance calls that its customers send or receive.¹⁸² During 1994, BMC subscribership climbed 41 percent from 421,000 to 592,000.¹⁸³

NewTel Mobility Ltd. provides cellular service throughout Newfoundland and Labrador. NewTel Mobility has approximately 80 percent of the cellular market.¹⁸⁴ NewTel Enterprises owns 100 percent of NewTel Mobility.¹⁸⁵

NBTel Mobility, a wholly-owned subsidiary of Bruncor, provides cellular service in New Brunswick. By the end of 1994, NBTel Mobility had approximately 31,000 subscribers, following 55 percent growth during the preceding year.¹⁸⁶

Rogers Cantel operates a nationwide cellular network in competition with Mobility Canada. Rogers Cantel received a license to provide nationwide cellular service from Canada's Department of Communications (DOC) that became effective July 1, 1985 and was renewed April 1, 1991.¹⁸⁷ Since 1985, Rogers Cantel has operated an analog cellular network, and in 1992 the company began to add digital transmission capacity to its network.¹⁸⁸ Rogers Cantel has 42 percent of the Canadian cellular market.¹⁸⁹ Rogers Communications

179. BCE MOBILE INC., 1994 ANNUAL REPORT 31 (1995).

180. BCE INC., 1993 SEC FORM 20-F, at 13 (1994).

181. BCE INC., 1994 ANNUAL REPORT 10 (1995).

182. BCE MOBILE INC., 1994 ANNUAL REPORT 30 (1995).

183. *Id.* at 3; BCE INC., 1993 SEC FORM 20-F, at 13 (1994).

184. NEWTEL ENTERPRISES LTD., 1994 ANNUAL REPORT 12 (1995).

185. *Id.*

186. BRUNCOR INC., 1994 ANNUAL REPORT 12 (1995).

187. ROGERS CANTEL MOBILE COMMUNICATIONS INC., 1992 ANNUAL REPORT 34 (1993).

188. *Id.* at 6.

189. BCE MOBILE INC., 1994 ANNUAL REPORT 5 (1995).

Inc. owns 80 percent of the outstanding shares but 97.6 percent of the voting control of Rogers Cantel.¹⁹⁰

In December 1992, the DOC awarded four companies, including Rogers Cantel a national license to operate a public digital cordless telephone service (DCT).¹⁹¹ DCT is the Canadian term for PCS.

190. ROGERS COMMUNICATIONS INC., 1992 ANNUAL REPORT 18 (1993).

191. ROGERS CANTEL MOBILE COMMUNICATIONS INC., 1992 ANNUAL REPORT 25 (1993).

THE EUROPEAN UNION

In a majority of the member states of the European Union (EU) the telecommunications industry is dominated by state-owned monopolies.¹⁹² Since the late 1980s, however, the European Commission (EC) has begun dismantling the entry barriers protecting these state monopolies. Early in the process, the EC opened to competition the markets for telecommunications equipment and information service such as electronic mail.¹⁹³ In 1993, the telecommunications ministers of member countries agreed to liberalize basic phone service in 1998.¹⁹⁴ And in November 1994, the telecommunications ministers decided that the same deadline of January 1, 1998 should also mark the end to the state monopolies' control over the ownership of the wires and switches that carry the telephone traffic.¹⁹⁵ Therefore, with the exception of several smaller countries, members of the European Union must open all sectors of their telecommunications industries to competition by January 1, 1998.

This mandate for competition in the EU's telecommunications markets, however, does not mean that the governments of the member countries must open their markets to foreign investment, nor does the EC directive state explicitly the number of competitors that each respective member's government will be obliged to license. Against this backdrop of uncertainty, we examine the telecommunications markets of the United Kingdom and Germany, as a representative sampling to demonstrate the different stages of the privatization and liberalization process that exist throughout Europe.

192. *Unraveling Europe's telephones*, *ECONOMIST*, Dec. 3, 1994, at 18.

193. *Telecoms Liberalisation Reaches Final Stages in EU*, *BUS. EUROPE*, Nov. 28, 1994. [page number?]

194. *Spat Over Cable Monopolies Threatens EU Effort to Open Telephone Markets*, *WALL ST. J.*, Nov. 15, 1994, at A11B.

195. *Telecoms Liberalisation Reaches Final Stages in EU*, *BUS. EUROPE*, Nov. 28, 1994. [page number?] [get official documents from the EC mission in Washington]

The United Kingdom

The United Kingdom has the most liberal telecommunications markets in Europe—and perhaps the world. After maintaining British Telecom (now called BT) for decades as the state-owned telephone monopoly, the British government in 1984 began a policy of privatization and liberalization.¹⁹⁶ The government initiated its liberalization of the industry first by licensing Mercury, a subsidiary of Cable & Wireless, to compete against BT in the delivery of long-distance telephone service.¹⁹⁷ In the years since, the government has aggressively introduced competition in its major communications markets—telephony, cable television and cable telephony, and wireless communications. In opening these markets to competition, the British government opened them also to foreign investment, an opportunity to which American firms in particular responded.

Telephony. Although BT's principal competitor, Mercury, is only 20 percent foreign-held—Bell Canada owns 20 percent, while Cable & Wireless owns the rest—the British telecommunications industry is markedly open to potential competition, even from foreign-owned entities. Since 1994, the British government has issued many new “public telecommunications operator” licenses.¹⁹⁸ Recipients included Sprint, IDB Communications of California, Vidéotron (a Canadian cable television company), Telia (the Swedish state telephone company), Telstra of Australia, and Norweb (a British electricity company).¹⁹⁹ In late 1994, the British government added AT&T to this list.²⁰⁰ As a public telecommunications operator, each of these companies is authorized to provide domestic, switched voice and data

196. See U.S. CONGRESS, OFFICE OF TECHNOLOGY ASSESSMENT, U.S. TELECOMMUNICATIONS SERVICES IN EUROPEAN MARKETS 49 (Government Printing Office 1993) [hereinafter OTA REPORT]; C.D. FOSTER, PRIVATIZATION, PUBLIC OWNERSHIP AND THE REGULATION OF NATURAL MONOPOLY 128–30 (Blackwell Publishers 1992); JOHN VICKERS & GEORGE YARROW, PRIVATIZATION: AN ECONOMIC ANALYSIS 194–241 (MIT Press 1988).

197. OTA REPORT, *supra* note ___, at 49.

198. Richard Hudson, *Sprint, Five Other Phone Companies Receive Licenses to Expand in Britain*, WALL ST. J., Apr. 7, 1994, at A10.

199. *Id.*

200. Alan Cane, *AT&T wins UK licence for full range of telephone service*, FIN. TIMES, Dec. 21, 1994, at 1 [hereinafter *AT&T wins UK Licence*].

services, private line and “international simple resale” services.²⁰¹ A provider of international simple resale services must lease capacity from BT or Mercury to carry calls both originating and terminating in the U.K.; the reseller may not be a facilities-based international carrier. After the British government granted AT&T a public telecommunications operator’s license, the Federal Communications Commission awarded BT the analogous license for the U.S., which authorizes BT to offer telephone and data services in the U.S., as well as international simple resale.²⁰²

Cable Television and Cable Telephony. In 1990, the British government abolished foreign ownership restrictions for cable television licenses.²⁰³ But it was not until the following year—when cable operators were given permission to switch telephony traffic over their own networks and to interconnect with the networks of BT, Mercury, or other cable companies—that significant foreign investment flowed into the British cable industry.²⁰⁴ These two regulatory developments in the U.K. have facilitated competitive entry into local telephony by expanding the pool of potential entrants to include foreign telephone and cable companies that have the necessary technical expertise and financial resources to compete against an incumbent as formidable as BT. In the U.K. it has principally been American and Canadian firms—Bell Canada, NYNEX, Sasktel, U S West, SBC (formerly Southwestern Bell), and TCI—that have introduced (along with Singapore Telecom) the same competition in local telephony and broadband services that regulators in the United States and Canada seek to nurture in their home markets.

The three largest cable television/cable telephony operators in the United Kingdom, in terms of homes passed—TeleWest, NYNEX, and Comcast—are all owned and operated by American companies.²⁰⁵ TeleWest, the largest of all, is a joint venture between TCI and U S West. Both companies have a 36.7 percent interest; the

201. *Id.*

202. Alan Cane, *US lifts restrictions on call connections by BT*, FIN. TIMES, Feb. 2, 1995, at 10.

203. *Multimedia in Britain: Down the line*, ECONOMIST, Nov. 26, 1994, at 76.

204. *Id.*

205. MORGAN STANLEY, UK CABLE: SECOND-QUARTER UPDATE: RECOVERING FROM THOSE FIRST-QUARTER BLUES 14 (Sept. 29, 1994).

remaining 26.6 percent is widely held following an initial public offering of the shares both on the London exchange and the New York Stock Exchange.²⁰⁶ TeleWest provides cable television and cable telephony over a broadband network, which, as of September 30, 1994, had been completed in 33 percent of TeleWest's franchise areas.²⁰⁷ Through sixteen franchises owned and operated by TeleWest and through seven affiliated franchises in which TeleWest owns minority interests, TeleWest is licensed to serve approximately 3.6 million homes and approximately 235,000 businesses in the United Kingdom.²⁰⁸ As of January 1, 1995, TeleWest had 224,573 cable television subscribers and 183,890 cable telephony subscribers.²⁰⁹

NYNEX CableComms (a wholly owned subsidiary of NYNEX) is designing and constructing a broadband network to provide telecommunications and cable television services throughout the United Kingdom.²¹⁰ By the end of 1994, NYNEX CableComms' network had passed approximately 673,000 homes, serving 122,000 cable television subscribers and 99,000 residential telephone customers.²¹¹ The completed network will pass approximately 2.7 million homes in 16 franchise areas.²¹²

NYNEX CableComms plans a public offering in the first half of 1995; details regarding the offering remain uncertain.²¹³

Comcast Corporation (Comcast) beneficially owns 31.2 percent equity interest and controls approximately 81.9 percent of the total voting power of Comcast UK Cable.²¹⁴ Comcast UK Cable owns interests in three operating companies: Birmingham Cable Corp. (27.5 percent); Cable London plc (48.9 percent); and Cambridge Holding Company Ltd. (50 percent).²¹⁵ The operating companies

206. See TELEWEST COMMUNICATIONS PLC, PROSPECTUS FOR 108,000,000 ORDINARY SHARES 16 (Nov. 7, 1994) [hereinafter TELEWEST PROSPECTUS].

207. *Id.* at 37.

208. *Id.*

209. TELEWEST COMMUNICATIONS PLC, 1994 ANNUAL REPORT 3 (1995).

210. NYNEX CORP., 1994 ANNUAL REPORT 8 (1995).

211. *Id.*

212. *Id.*

213. Judy Webber, REUTERS, Feb. 28, 1995.

214. COMCAST CORP., 1994 SEC FORM 10-K, at 2 (1995).

215. *Id.* at 5.

provide cable television and cable telecommunications services to homes and businesses in their respective areas.²¹⁶

SBC Communications Inc. (SBC), through its international subsidiary, and Cox Cable Communications (Cox) also participate in the British cable television/cable telephony market. They both hold 50 percent of a common joint venture which owns and operates combined cable television and telephone systems in eight franchise areas in northwest and central England, covering an area with 1.3 million homes.²¹⁷ At the end of 1994, the SBC and Cox operations passed more than 500,000 homes with its cable television network, providing cable television service to approximately 117,000 subscribers and passed more than 400,000 homes with its cable telephony network, providing cable telephony service to approximately 114,000 subscribers.²¹⁸ SBC and Cox share management of the cable operations.²¹⁹

The economics of the joint provision of cable television and cable telephony allow cable television/telephony operators to pass along the cost savings to their customers. This factor combined with the favorable regulatory environment have nurtured the accelerated development of cable television and telephony networks throughout the United Kingdom. Existing cable licenses cover about 70 percent of the 24 million homes in the United Kingdom.²²⁰ As of January 1, 1995, approximately 4.2 million homes in those franchise areas had access to cable services.²²¹ Slightly more than 900,000 homes had subscribed to cable television service, and just over 715,00 had subscribed to cable telephony services. TeleWest reported in 1994 that it had gained 20 percent of the residential telephony market from BT in cities where Telewest has installed its network.²²²

216. *Id.*

217. *Cox Boosts UK Venture Stake*, WALL ST. J., Oct. 31, 1994, at B10; SBC COMMUNICATIONS INC., 1994 ANNUAL REPORT 15 (1995).

218. SBC COMMUNICATIONS INC., 1994 SEC FORM 10-K, at 7 (1995).

219. *Id.*

220. Andrew Adonis, *Cable network may land government a £1bn windfall*, FIN. TIMES, Aug. 15, 1994, at 6.

221. TELEWEST COMMUNICATIONS PLC, 1994 ANNUAL REPORT 3 (1995).

222. Larry J. Yokell, *Cable TV companies move into telecom markets*, BUS. COMM. REV., Nov., 1994, at 43.

To be sure, regulators in the United Kingdom have favored entrants. BT is constrained to charge a uniform price across the country, and thus may not reduce prices in an individual location to deter entry or match competitors there.²²³ BT is also subject to a ten-year moratorium (lasting till 2001) on entry into the video market.²²⁴ Finally, cable telephony providers receive a subsidy in their interconnection charge to BT's network.²²⁵ Although the charge for interconnecting to BT's network includes a component representing the entrant's compensation for BT's contribution to universal-service obligations, the Director General of Oftel, Britain's regulatory agency for telecommunications, has exercised his discretion to rule that this "access deficit contribution" need not be paid until the interconnecting operator (a term which includes cable telephony firms, among others) has achieved a market share of 25 percent.²²⁶ Because the U.K. is the only country in which cable telephony is operational, it is unclear whether such entry would have occurred without this interconnection subsidy allowed by Oftel. Further, if such a subsidy is necessary to induce entry, it is unclear whether a similar policy should be followed more generally to encourage the development of interactive broadband systems that would need to interconnect with the existing networks for local telephony or cable television.

Notwithstanding these preferences for entrants, it is possible that the greatest stimulus for the U.K. cable and cable telephony markets has been foreign investment by telephone companies. Lehman Brothers reports that "the UK has become a model for how the cable television and telephone industries are expected to converge in the US and in other countries, because the ability to offer dual services is so compelling."²²⁷ As of January 1, 1994, over 98 percent of cable subscribers in the U.K. who were also subscribing to cable telephony service were served by cable operators owned in whole or part by a

223. TELEWEST PROSPECTUS, *supra* note ___, at 52.

224. *Id.* at 76.

225. *Id.* at 75.

226. See WISSENSCHAFTLICHES INSTITUT FÜR KOMMUNIKATIONSDIENSTE & EUROPEAN-AMERICAN CENTER FOR POLICY ANALYSIS, NETWORK INTERCONNECTION IN THE DOMAIN OF ONP: STUDY FOR DG XIII OF THE EUROPEAN COMMISSION, FINAL REPORT 191 (Nov. 1994); TELEWEST COMMUNICATIONS PLC, *supra* note ___, at 75.

227. LEHMAN BROTHERS, THE UK CABLE MARKET: BREAKING NEW GROUND 2 (Feb. 17, 1994).

foreign telephone company.²²⁸ Moreover, the rapid growth in cable subscribership did not begin until these telephone companies entered the market:

Until 1990-91, cable television had been slow to develop in the UK, and there had been limited experience in broadband networks among domestic companies. However, US and Canadian cable and telephone companies were more familiar with wireline transport and cable television, and viewed the UK as a growth opportunity not just because of the underlying market potential but also because of its applicability to their domestic core business [T]he potential to offer telephony along with video services provided North American operators with a sophisticated network platform which could be utilised to test both technical and marketing applications of a full service network several years in advance of their introduction in the US.²²⁹

In response, BT cut weekend rates by as much as 60 percent²³⁰ and, more recently, entered into an agreement with BSkyB pursuant to which the DBS company would offer its video subscribers discounts on BT's telephony services.²³¹

Wireless. In the mid-1980s, when the cellular industry was beginning to take root across much of Europe, most European governments simply extended the reach of their telecommunications monopolies to the new technology.²³² But the British government licensed two

228. Affidavit of Oliver E. Williamson, at 14 (May 31, 1994), submitted on behalf of Motion of Bell Atlantic Corporation, BellSouth Corporation, Nynex Corporation, and Southwestern Bell Corporation to Vacate the Decree, *United States v. Western Elec. Co.*, No. 82-0192 (D.D.C. filed July 6, 1994).

229. LEHMAN BROTHERS, *supra* note __, at 43.

230. Richard Hudson, *BT Cuts Rates on Phone Calls As Much as 60%*, WALL ST. J., Nov. 2, 1993, at A19.

231. Raymond Snoddy, *BT Links with BSkyB to Beat Cable Challenge*, FIN'L TIMES, Nov. 12, 1994, at 4.

232. Andrew Adonis, *Survey of Mobile Communications*, FIN. TIMES, Sept. 5, 1994, at IV.

cellular operators (Vodafone and Cellnet), allowing BT to take only a 60 percent share in one of them (Cellnet).²³³

Vodafone is the largest mobile telephony operator in the U.K.²³⁴ It operates both an analog cellular network with 1.52 million subscribers and a digital GSM network with 118,000 subscribers.²³⁵

Cellnet is the second largest mobile telephony operator in the U.K.²³⁶ It is owned jointly by BT and Securicor, a British communications and security group; BT holds 60 percent, and Securicor holds 40 percent.²³⁷ Like Vodafone, Cellnet operates both an analog cellular network and a digital GSM network. The analog network has 1.54 million subscribers while the digital network has 20,000 subscribers.²³⁸

Since the issuance of licenses to these two original cellular operators, the British government has issued licenses to two additional mobile telephony operators, Mercury's One-2-One and Hutchison Microtel. Mercury's One-2-One is owned jointly and equally by Cable & Wireless and U S West.²³⁹ One-2-One operates a PCN network that covers only about 30 percent of the U.K. population.²⁴⁰

Hutchison Microtel operates a PCN network called Orange. The largest shareholder in Hutchison Microtel is Hutchison Wham-

233. *Id.*

234. Alan Cane, *Cellnet in £700m plan to overtake Vodafone*, FIN. TIMES, Feb. 15, 1995, at 8.

235. Andrew Adonis, *Survey of Mobile Communications*, FIN. TIMES, Sept. 5, 1994, at IV.

236. Alan Cane, *Cellnet in £700m plan to overtake Vodafone*, FIN. TIMES, Feb. 15, 1995, at 8.

237. *Id.*

238. Andrew Adonis, *Survey of Mobile Communications*, FIN. TIMES, Sept. 5, 1994, at IV; Alan Cane, *Cellnet in £700m plan to overtake Vodafone*, FIN. TIMES, Feb. 15, 1995, at 8.

239. Andrew Adonis, *Thomson Directories bought by U S West*, FIN. TIMES, May 20, 1994, at 19.

240. Andrew Adonis, *Mercury to double its mobile reach*, FIN. TIMES, Oct. 19, 1994, at 9.

poa, the Hong Kong conglomerate.²⁴¹ As of 1995, the network covers 65 to 70 percent of the U.K. population.²⁴²

Germany

With the exception of minority investments in two mobile telephone service operators and the opportunity for participation in certain other niche markets, foreign investors are, for the most part, excluded from the German telecommunications industry. Germany has no legal restriction on foreign ownership of a telecommunications operator. To date, however, foreign direct investment has only existed in the form of minority interests in a market entrant, with the majority stake held by one or more large German corporations. With the imminent introduction of competition to Germany's telecommunications markets on January 1, 1998—as mandated by the EC—many foreign telecommunications firms have entered into partnerships with some of Germany's largest industrial companies, each partnership hoping that with the proper mix of foreign telecommunications expertise and domestic capital and political influence it will succeed in capturing part of Germany's \$41.6 billion telecommunications market.²⁴³

Telephony. Telecommunications in Germany traditionally have been the province of the German ministry of posts, telephone and telegraph, and the ministry has consistently nurtured Deutsche Telekom's monopoly over telephony and terrestrial networks. Recently, however, the ministry has begun a series of steps toward partial privatization of Deutsche Telekom. In 1990, Deutsche Telekom became a public company,²⁴⁴ and on January 1, 1995, Deutsche Telekom and Deutsche Bundespost became separate stock companies.²⁴⁵ The partial privatization will culminate in the public sale of one-third of all outstanding shares of Deutsche Telekom, with the German government holding the remaining two-thirds.²⁴⁶

241. *Id.*

242. *Id.*

243. Greg Steinmetz, *Deregulation Plans In Germany Face Union Resistance*, WALL ST. J., Apr. 25, 1995, at A17.

244. OTA REPORT, *supra* note ___, at 51.

245. *Privatisation: Germany PTT sale cleared*, BUS. EUROPE, July 18, 1994.

246. Silvio Ascarelli, *Deutsche Telekom Official is Concerned Privatization Will*

The sale will be completed in two offerings, the first in 1996, the second sometime before 2000.²⁴⁷ Deutsche Telekom is valued at between \$45 billion and \$60 billion. The planned one-third offering will be one of the world's largest ever and will have a total value equivalent to nearly 10 percent of all shares traded on the German stock market.²⁴⁸ The ministry had originally planned to sell only 40 percent of the offerings on overseas markets; but because of the size of the sale, at least 50 percent of the offerings—or 17 percent of the total outstanding shares—will likely be sold on foreign exchanges.²⁴⁹ Deutsche Telekom plans to place more than one fourth of the first offering in the United States.²⁵⁰

To maximize revenue from the public offering, the German government has decided to maintain Deutsche Telekom's monopoly status over voice telephony and terrestrial networks until the EC's January 1, 1998 deadline for opening communications markets.²⁵¹ In 1998, the German government will be compelled to license companies to compete with Deutsche Telekom, but the manner in which the government will introduce competition remains unclear.

Under the German Law on Telecommunications Installations, the Minister for Postal and Telecommunications Services has the sole authority to grant licenses for the exercise of the right to erect and operate telecommunications installations.²⁵² The Minister also sets the terms and conditions upon which such licenses are granted.²⁵³ In April 1995, Wolfgang Boetsch, Germany's Minister of Posts and Telecommunications, said that Germany will open all remaining telecommunications markets to full competition by January 1, 1998, thereby eliminating restrictions on foreign entry.²⁵⁴ Boetsch suggest-

Overwhelm Markets, WALL ST. J., Feb. 3, 1995, at A7J.

247. *Id.*

248. Richard Hudson & Audrey Choi, *Deutsche Telekom's Monopoly Status Weighs Heavily on Privatization Plan*, WALL ST. J., Nov. 17, 1994, at A20.

249. Michael Lindemann, *Deutsche Telekom may place more shares outside Germany*, FIN. TIMES, Feb. 3, 1995, at 21.

250. *Deregulation Plans In Germany Face Union Resistance*, *supra* note __, at A17.

251. Nathaniel C. Nash, *Germany's Telephone Pie Is Just Too Big to Pass Up*, N.Y. TIMES, Jan. 30, 1995, at D1.

252. AIRTOUCH COMMUNICATIONS, INC., 1993 SEC FORM 10-K, at 23 (1994).

253. *Id.*

254. Jim Rogers, *German Telecom Official Outlines Country's New Open Market*

ed that the German parliament might pass such reform legislation by the middle of 1996, allowing for the issuance of licenses by the middle of 1997, so that entrants may be fully prepared to commence operations by January 1, 1998.²⁵⁵ Boetsch said that the new regulatory framework will be based on the following four principles:

1. Competition is the basis for assuring the supply of modern and affordable telecommunications services to consumers and businesses;
2. Aside from guaranteeing universal service, government regulations should confine themselves to effectuate functioning competition with equal opportunities for market participants;
3. Effectiveness of competition and a constitutionally guaranteed right of free economic activity require that limiting the number of market entrants may occur in the event that allocable resources (such as radio frequencies) are limited; and
4. Foreign investment in telecommunications activities will be accorded national treatment, meaning no reciprocity requirement will be established.²⁵⁶

Boetsch's deregulatory proposal has engendered resistance from the influential Postal Workers Union, which represents German telephone workers.²⁵⁷ Arguing that the Minister's plan would put Deutsche Telekom at a competitive disadvantage and worsen Germany's unemployment, the union hopes to forestall such broad

Policy, WASH. TELCOM WEEK, Apr. 7, 1995, at 1.

255. *Id.*

256. *Id.*

257. Steinmetz, *Deregulation Plans In Germany Face Union Resistance*, *supra* note ___, at A17.

plans to open Germany's telecommunications markets to full competition. In light of the union's opposition to the proposal and the likelihood that Deutsche Telekom itself will raise objections, the reform of Germany's telecommunications sector remains unclear, particularly because the deregulation plan needs the approval of the German government, whose upper house is controlled by the Social Democrats. The party is expected to protect the interest of the postal union and its 548,000 members.²⁵⁸

While it remains unclear how many licenses the government will issue and what powers these licenses will bestow, many foreign telecommunications companies with the managerial and technological expertise to compete with Deutsche Telekom are forming partnerships with major German corporations that wield considerable financial power and political influence, so that together they might become a telecommunications operator in Germany.

Most of the joint ventures being formed are similar. A large foreign telecommunications firm paired with a large German industrial or utility conglomerate, each with a varying level of equity participation by the foreign telecommunications operator. AT&T is in negotiations with RWE, a \$6.6 billion utility that is Germany's biggest electricity generator and the nation's fifth-largest company.²⁵⁹ With 9,000 miles of telephone lines already in place, RWE currently can reach 50 percent of the German population; it plans to link its own electricity grid with those of six smaller electricity generators and distributors to create a more extensive telecommunications network.²⁶⁰ The size of AT&T's equity stake in the joint venture is unclear; the issue of control is reportedly the sticking point in the negotiations.²⁶¹

BellSouth entered into a joint venture with German steel-maker, Thyssen.²⁶² The two companies already work together as

258. *Id.*

259. Michael Lindemann, *A buzzing business manoeuvre by RWE—the German utility is expanding in the telecoms market*, FIN. TIMES, Feb. 23, 1995, at 37.

260. *Id.*

261. Greg Steinmetz & John J. Keller, *AT&T, RWE Talk of German Phone Alliance*, WALL ST. J., Feb. 21, 1995, at B12.

262. *Bell South in Thyssen Pact*, N.Y. TIMES, Jan. 25, 1995, at D2; Greg Steinmetz, *Bell South and Thyssen Join to Compete in German Telecommunications Market*, WALL ST. J., Jan. 25, 1995, at A12.

part of a consortium that operates E-Plus MobilFunk, Germany's third mobile telephony service provider.²⁶³ Thyssen will own 60 percent of the new company, and BellSouth will own 40 percent.²⁶⁴ Thyssen has indicated that it will invest DM 3 to 4 billion in the joint venture over the next several years.

Cable & Wireless has joined Veba—an oil, chemical, and energy conglomerate—Germany's fourth largest company overall—to participate in the future German telecommunications market.²⁶⁵ Veba will acquire 10.5 percent of Cable & Wireless for \$1.5 billion, but the extent of Cable & Wireless' equity participation in the joint venture is uncertain.²⁶⁶

BT is forming a joint venture with Viag, the German energy and industrial conglomerate.²⁶⁷ BT and Viag will each hold a 37.5 percent interest in a new company, to be called Viag InterKom.²⁶⁸ Viag's finance director, George Obermeier, has stated explicitly that Viag wants the remaining 25 percent to be held by German companies so that Viag InterKom will have a greater chance of getting a license in 1998. As of mid-1995, BMW is the most likely investor for the last 25 percent.²⁶⁹

Finally, Deutsche Aerospace AG (Dasa), a unit of Daimler-Benz, has entered a 50/50 joint venture with Northern Telecom.²⁷⁰

Wireless. Since opening the cellular market to competition in 1989,²⁷¹ the German government has licensed three competing mobile telephone service operators and has stated that, although it will not award any additional licenses through 1996, it will award more

263. Michael Lindemann, *Runners and riders poised for the off*, FIN. TIMES, Jan. 12, 1995, at 14.

264. *Id.*

265. Nash, *Germany's Telephone Pie is Just Too Big to Pass Up*, *supra* note __.

266. *Id.*

267. Lindemann, *Runners and riders poised for the off*, *supra* note __, at 14.

268. Lindemann, *A buzzing business manoeuvre by RWE—the German utility is expanding in the telecoms market*, *supra* note __, at 21.

269. Michael Lindemann, *BMW considering 25% stake in telecoms venture*, FIN. TIMES, Jan. 24, 1995, at 22.

270. *Daimler's Dasa Unit, Northern Telecom Plan German Venture*, WALL ST. J., Jan. 11, 1995, at A10.

271. Karen L. Miller & Gail Edmondson, "We're Making a 180-Degree Turn", BUS. WEEK, Nov. 21, 1994, at 20.

licenses thereafter.²⁷² The three current operators are Deutsche Telekom, Mannesmann Mobilfunk, and E-Plus Mobilfunk.

Deutsche Telekom began offering cellular service over an analog cellular network called C-Netz in 1985. C-Netz was near capacity with 800,000 subscribers as of January 1, 1994.²⁷³ Deutsche Telekom operates another older network, B-Netz, which serves approximately 20,000 subscribers, most of them government workers.²⁷⁴ Deutsche Telekom created Germany's first digital GSM cellular network, denoted "D1,"²⁷⁵ which commenced operations in July 1992.²⁷⁶ By January 1, 1994, 480,000 people had subscribed to the D1 cellular service.²⁷⁷ Deutsche Telekom benefits from a well-developed distribution channel integrated with its landline service.²⁷⁸ Deutsche Telekom recently spun off its cellular operations into a wholly owned subsidiary called DeTeMobil.²⁷⁹ In late 1994, DeTeMobil had a 50 percent market share.²⁸⁰

When the German government opened the cellular market to competition in 1989, Mannesmann won the first license issued and created Mannesmann Mobilfunk GmbH (MMO).²⁸¹ MMO operates one of Germany's three digital cellular systems under the name "D2 Privat," or simply "D2."²⁸² Mannesmann owns 51 percent of MMO. AirTouch originally owned 29.15 percent of MMO,²⁸³ but recently increased its ownership of MMO to 32.7 percent.²⁸⁴ Deutsche Genossenschaftsbank, a German commercial bank, owns

272. AIRTOUCH COMMUNICATIONS, INC., 1993 SEC FORM 10-K, at 13 (1994); Nash, *Germany's Telephone Pie Is Just Too Big to Pass Up*, *supra* note ___, at D1.

273. AIRTOUCH COMMUNICATIONS, INC., 1993 SEC FORM 10-K, at 13 (1994).

274. *Id.*

275. Christopher Parkes, *Jostling for position in German telecoms race*, FIN. TIMES, Sept. 22, 1994, at 25.

276. AIRTOUCH COMMUNICATIONS, INC., 1993 SEC FORM 10-K, at 13 (1994).

277. *Id.*

278. *Id.*

279. Mark Newman, *Survey of Mobile Communications*, FIN. TIMES, Sept. 5, 1994, at VIII.

280. Miller & Edmondson, *"We're Making a 180-Degree Turn," supra* note ___,

281. Greg Steinmetz, *Mannesmann Scores With Cellular Service*, WALL ST. J., Feb. 24, 1995, at A6.

282. AIRTOUCH COMMUNICATIONS, INC., 1994 ANNUAL REPORT 63 (1995).

283. AIRTOUCH COMMUNICATIONS, INC., 1993 SEC FORM 10-K, at 12 (1994).

284. AIRTOUCH COMMUNICATIONS, INC., 1994 ANNUAL REPORT 6 (1995).

10.29 percent of MMO²⁸⁵ and Cable & Wireless owns 5 percent.²⁸⁶

MMO holds a nationwide license. The company has not yet achieved a significant level of penetration. Relative to the entire system population of 80.9 million people.²⁸⁷ But in the two and half years that D2 has been operational, MMO has already attained a subscribership of 842,000.²⁸⁸

AirTouch has played a significant role in designing and operating the D2 network. AirTouch provided a large technical staff to design and construct the network; helped develop and install the customer service and billing system; and assisted with business planning, marketing, sales, and distribution.²⁸⁹

E-Plus Mobilfunk GmbH (E-Plus) operates the third German mobile telephone service network.²⁹⁰ E-Plus received Germany's third digital license in February 1993 and began operating its network, "E1," in 1994.²⁹¹ E1 operates on different frequencies from those of GSM systems installed throughout Europe.²⁹² Under the terms of its license, E-Plus must cover 90 percent of the German population by 1997.²⁹³

The ownership structure of E-Plus matches that of many European telecommunications entrants trying to compete in a niche market against the monopoly incumbent: Large domestic corporations with vast financial resources and political sophistication hold a majority interest while one or two foreign telecommunications companies hold a minority stake. Thyssen and Veba, Germany's two large industrial conglomerates, each owns 28 percent.²⁹⁴ BellSouth

285. AIRTOUCH COMMUNICATIONS, INC., 1993 SEC FORM 10-K, at 12 (1994).

286. CABLE & WIRELESS PLC, 1994 SEC FORM 20-F, at 35 (1994).

287. AIRTOUCH COMMUNICATIONS, INC., 1994 ANNUAL REPORT 62 (1995).

288. *Id.* at 6.

289. AIRTOUCH COMMUNICATIONS, INC., 1993 SEC FORM 10-K, at 12 (1994).

290. Gail Edmondson, *A Feeding Frenzy in European Telecom*, BUS. WEEK, Nov. 21, 1994, at 119.

291. AIRTOUCH COMMUNICATIONS, INC., 1993 SEC FORM 10-K, at 13 (1994).

292. *Id.*

293. *Id.*

294. Nash, *Germany's Telephone Pie Is Just Too Big to Pass Up*, *supra* note ___, at D1.

owns 21 percent. Vodafone, the British cellular operator, owns 16 percent, and several lesser investors own the remaining 7 percent.²⁹⁵

The German cellular market differs from the American cellular market in several important ways. Per-minute charges are typically higher in Germany than in the U.S. But in Germany there is no additional charge for long-distance services; and, because the three German licensees hold national franchises, there is no additional roaming charge for any service within Germany.²⁹⁶ Finally, the calling party in Germany pays for all cellular charges.²⁹⁷

295. Lindemann, *Runners and riders poised for the off*, *supra* note ___, at 14.

296. AIRTOUCH COMMUNICATIONS, INC., 1993 SEC FORM 10-K, at 12 (1994).

297. *Id.*

ASIAN/PACIFIC COUNTRIES

New Zealand

With just 3.4 million people inhabiting an island of approximately 157,000 square miles, New Zealand is a country about the size of California.²⁹⁸ But it has provided the world with one of the most important lessons in modern telecommunications regulatory policy—that privatization, competition, and the resultant capital investment stimulate the development of a nation's telecommunications infrastructure, giving consumers improved telecommunications services at lower cost.

To lift its economy from recession, the New Zealand government began to overhaul its national economic policies in the late 1970s. A net exporter of agricultural goods, New Zealand suffered significantly from the oil crises in the 1970s. To resuscitate its economy, the New Zealand government implemented an economic plan designed to: (1) find new export markets, (2) diversify its basket of export products, (3) increase energy self-sufficiency, and (4) improve transport efficiency. Its economy still sluggish in the early 1980s, the New Zealand government recognized that its economic reforms would fail because too many segments of the nation's economy lacked incentives for efficient production. By the mid-1980s, the New Zealand government decided to privatize a number of state-owned companies and liberalize their respective industries. The objective was to invigorate these industries by injecting competition and thereby encouraging investment, including foreign direct investment, which the government officials predicted would occur under an open and competitive regime. Telecommunications was one of these industries.²⁹⁹

From 1987 to 1989, the New Zealand government comprehensively reformed its regulation of telecommunications. Until 1987, the New Zealand Post Office owned and operated, on a monopoly basis, the nation's telecommunications networks. The Post Office, as

298. ITU WORLD DEVELOPMENT REPORT, *supra* note ___, at A-3.

299. NEW ZEALAND MINISTRY OF COMMERCE, TELECOMMUNICATIONS REFORM IN NEW ZEALAND: 1987-1994, TELECOMMUNICATIONS LEAFLET NO. 5, at 3 (Jan. 19, 1995)

the nation's single largest employer with 41,000 employees in 1984, was a sclerotic bureaucracy.³⁰⁰ In 1987, the government severed telecommunications from the Post Office, creating Telecom Corporation of New Zealand (TNZ) and transferring telecommunications regulatory authority to the Ministry of Commerce (then called the Department of Trade and Industry).³⁰¹ TNZ assumed all of the Post Office's telecommunications operations.³⁰² From October 1, 1987 to April 1, 1989, the government progressively deregulated the supply of telecommunications customer premises equipment.³⁰³ On April 1, 1989, the New Zealand government removed all statutory barriers to entry to any part of the telecommunications industry, including restrictions on foreign ownership of a New Zealand telecommunications operator.³⁰⁴ Finally, in 1990, the New Zealand government sold its 100 percent interest in TNZ to Bell Atlantic and Ameritech.³⁰⁵ With its dramatic deregulation and privatization of the national telecommunications operator, the New Zealand government succeeded in creating one of the most open and modern telecommunications markets in the world, benefiting consumers with lower prices and greater services.

To transform its telecommunications industry, the New Zealand government welcomed foreign capital. In the words of the Minister of Commerce, the government's objective with regard to foreign direct investment in telecommunications was and remains

to ensure that adequate investment funds are available to the New Zealand economy as a whole, to fund the provision of goods and services required by New Zealand consumers. To achieve this, Government has adopted the strategy of allowing private sector capital funding, including overseas investment capital, where practical.³⁰⁶

300. *Id.*

301. *Id.* at 2.

302. TELECOM CORP. OF NEW ZEALAND LTD., 1994 SEC FORM 20-F, at 5 (1994).

303. NEW ZEALAND MINISTRY OF COMMERCE, *supra* note ___, at 2.

304. TELECOM CORP. OF NEW ZEALAND LTD., 1994 SEC FORM 20-F, at 12 (1994); NEW ZEALAND MINISTRY OF COMMERCE, *supra* note ___, at 7.

305. BELL ATLANTIC CORP., 1994 SEC FORM 10-K, at 19 (1995).

306. Letter from Maurice Williamson, Minister of Communications, New Zealand,

Thus, there are no restraints on the extent or level of foreign ownership of businesses, other than a requirement that there be less than 50 percent of direct foreign ownership of TNZ.³⁰⁷

Telephony. Two companies compete in New Zealand to provide traditional wire-based telephony services: TNZ (the former state-owned monopoly incumbent) and Clear Communications (the newly formed challenger). In addition to these two carriers, several other companies hold licenses to provide international long-distance services.

TNZ is the principal supplier of telecommunications services in New Zealand.³⁰⁸ TNZ provides local telephone service, domestic and international long-distance telephone services, and a wide range of other telecommunications services, including cellular, directories, leased circuits, mobile radio, paging, and data communications.³⁰⁹

In 1990, the New Zealand government sold all of its 100 percent interest in TNZ to private interests.³¹⁰ Wholly owned New Zealand subsidiaries of Bell Atlantic and Ameritech each purchased 49 percent of the common shares of TNZ for a total price of approximately \$2.4 billion, quadrupling American foreign investment in New Zealand at the time.³¹¹ Under the terms of purchase, Bell Atlantic and Ameritech were required to reduce the aggregate foreign ownership of TNZ to 49.9 percent within four years of the initial purchase, selling at least NZ\$500 million worth of shares in a public offering.³¹² Despite its open stance toward foreign investment, the New Zealand government deemed it important to keep foreign direct investment in the newly-privatized national telecommunications operator below 50 percent. Including interests held by portfolio investors, the foreign ownership of TNZ actually exceeds 50 percent.

to J. Gregory Sidak, Resident Scholar, American Enterprise Institute 2 (Jan. 30, 1995) (on file with author) [hereinafter *Williamson Letter*].

307. NEW ZEALAND MINISTRY OF COMMERCE, *supra* note ___, at 7.

308. TELECOM CORP. OF NEW ZEALAND LTD., 1994 FORM 20-F, at 5 (1994).

309. *Id.*

310. *Williamson Letter*, *supra* note ___, at 2.

311. BELL ATLANTIC CORP., 1994 FORM 10-K, at 19 (1995); *Williamson Letter*, *supra* note ___, at 2.

312. NEW ZEALAND MINISTRY OF COMMERCE, *supra* note ___, at 7.